

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: June 25, 2021

AT (OFFICE): NHPUC

FROM: Kenneth Walsh *KGW*
Utility Analyst IV – Safety Division

SUBJECT: Docket No. DE 21-113 Public Service New Hampshire d/b/a Eversource Energy
Petition for License and License Amendment to Construct and Maintain Electric Lines Over and Across State Owned Land in Hill and Public Waters in Hill and New Hampton, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Lynn Fabrizio, Staff Attorney
Randall Knepper, Director, Safety Division
Paul Kasper, Assistant Director, Safety Division

The Safety Division’s review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State Statute;
- Review of the existing crossing(s) previously licensed by the PUC;
- Review of land ownership of existing pole structures;
- Review of NESC code requirements as described in Puc 300;
- Review of public need and public impact, including applicability of other State regulations; and
- Conclusions and Recommendations.

1. Petition contents and history

On June 2, 2021, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition for a license and license amendment pursuant to RSA 371:17 to construct, maintain and operate the Eversource A111 Line, which is a three phase 115kV transmission line, over State owned land in Hill and public waters in Hill and New Hampton.

Prior licensing by the PUC in Docket DE 20-042 pursuant to Order 26,423, included only the public water crossing over the Pemigewasset River in Hill and New Hampton. The State owned land was not previously licensed for unknown reasons to include the possibility the land may not have been owned by the State at the time of line construction.

This proposed project is a full line rebuild and renumbering to include the replacement of (9) wood structures with weathered steel. Existing conductors will be replaced with (3) new conductors and existing shield wires will be replaced with (2) fiber optical ground wires (OPGW) with both being vertically attached above the conductors.

Common to all these noted structures, existing conductors will be replaced with (3) new ACSS 1272 54/19 kcmil conductors. Two existing shield wires will be replaced with (2) 48 fiber optical ground wire (OPGW) with both being vertically attached above the conductors. The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) conditions at 285 deg F. for all crossings within this petition. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. Only 20.1 feet clearance is required by the NESC Table 232-1 for other areas traversed by vehicles, such as cultivated, grazing, forest, and orchard lands, industrial sites, commercial sites, etc. Only 18.6 feet clearance is required by the NESC Table 232-1 for water areas not suitable for sail boating. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The scope of this project begins in Hill at renumbered Structure #70, which is approximately 1,690 feet northwest of where the A111 Line crosses Old Town Road. From Structure #80, the A111 Line continues to the northeast to cross the Pemigewasset River from Structure #81 on the west bank in Hill, to Structure #82 located in New Hampton.

The land crossing spans 4,487 feet between Structures #70 and #80 with 3,692.3 feet spanning State owned land. See PUC Map #1.

The water crossing spans 1,844.8 feet between Structures #81 and #82 with 343.1 feet spanning public waters. See PUC Safety Map #2.

The table provides the summary of this petition with all crossings to include structure numbers and types, spans, ES design criteria, and NESC compliance. Safety Staff noted a minor error in ES Exhibit #10 for the description of structure type for Structure #79, which was corrected in the following table:

PUC Safety Division Summary Table

Structure	Type	Span (Pole to Pole)	Distance (feet)	Minimum NESC Table 232-1 Clearance (ft.)	ES Vertical Design Clearance (ft.)	Complies with NESC Table 232-1 (Y/N)
70	61.0' steel 2 pole, T, CLH1	70-71	717.8	20.1	54.4	Y
71	70.0' steel 2 pole, T, CLH1					
72	61.0' steel 2 pole, T, CLH1	71-72	198.8	20.1	30.9	Y
73	61.0' steel 2 pole, T, CLH1	72-73	479	20.1	28.6	Y
74	70.0' steel 2 pole, T, CLH1	73-74	645.7	20.1	31.6	Y
75	61.0' steel 2 pole, T, CLH1	74-75	472.2	20.1	33.3	Y
76	61.0' steel 2 pole, T, CLH1	75-76	597.5	20.1	28.5	Y
77	65.5' steel 3 pole, F-2, CLH1	76-77	289.7	20.1	32.8	Y
78	70.0' steel 2 pole, T, CLH1	77-78	415.6	20.1	38.7	Y
79	56.5' steel 3 pole, ADL CLH4	78-79	324.4	20.1	27.9	Y
80	56.5' steel 2 pole, T, CLH1	79-80	346.3	20.1	42.4	Y
81	87.0' steel 3 pole, ADS-1 CLH3	81-82	1,844.80	18.6	54.7	Y
82	97.0' steel 3 pole, ADS-1 CLH5					

The water clearances to the projected 100-year flood elevations were confirmed by Safety Division staff. The water clearances are taken from the projected 100 year flood levels. This is more conservative than the 10 year flood levels allowed by the NESC (note 18 to Table 232-1).

2. New Hampshire statute referenced in petition

371:17 Licenses for New Poles. – Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.

Source. 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par.17. 1953, 52:1, eff. March 30, 1953. 2013, 82:1, eff. June 19, 2013.

3. Review of existing license(s) and permissions previously granted by the PUC for these locations of the State owned land in Hill and the public waters of the Pemigewasset River in Hill and New Hampton.

The State owned land crossing spans in Hill were not previously licensed.

The public water crossing in Hill and New Hampton was licensed in DE 20-042 pursuant to Order 26,423.

In Hill and New Hampton, the Pemigewasset River from the outlet of Profile Lake to the southern boundary of Franconia State Park and from the northernmost Thornton town line to the confluence with the Merrimack River in Franklin is listed under the category “Public Rivers and Streams” in the Official List of Public Waters (OLPW). The entire list of public waters can be accessed through the following web link:

<https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/olpw.pdf>

ES asserts environmental impacts from this project will require permits from the NH Department of Environmental Services and that ES will obtain these before commencing work.

The U.S. Army Corps of Engineers (ACOE) does not regulate the subject portions of the Pemigewasset River in Hill and New Hampton as federal-designated navigable waters. Therefore, no crossing permit is required from USACOE.

4. Review of land ownership of proposed pole structures

In its petition, ES specifies that the replacement of the structures and static wires with OPGW is over state owned land in Hill and over public waters in Hill and New Hampton, New Hampshire.

5. Review of NESC code requirements as described in Puc 300

Under N.H. Code Admin. Rules Puc 306, each utility is required to construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

In accordance with good utility practice;

After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and

To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.

For purposes of that section, “good utility practice” means in accordance with the standards established by the “National Electrical Safety Code C2-2012.”

ES states that the current crossings have been designed and will be re-constructed, maintained, and operated in accordance with the NESC C2-2012.

Safety Division Staff reviewed the specifications related to the design and re-construction of this crossing project as described in the petition, the attachments, and all supplemental support documents, and found them to be in conformance with the applicable sections of NESC C2-2012 and Puc 300.

6. Review of public need and public impact

In order to meet the reasonable requirements of electric service to the public, ES proposes to replace existing wood structures with steel structures, replace existing conductors with new conductors, replace static wires with communications fiber optic cables, and maintain a three-phase 115 kV transmission line designated as the A111 Line over and across state owned land in Hill and public waters in Hill and New Hampton, New Hampshire. This transmission line is an integral part of ES's electric transmission system in this area.

ES asserts in the petition that the existing crossings will be exercised without substantially affecting the rights of the public in the State owned land in Hill and in the subject public waters in Hill and New Hampton. Minimum safe line clearances above the land and river surfaces and affected shorelines will be maintained at all times. The use and enjoyment of the State owned land and rivers by the public will not be diminished in any material respect as a result of the overhead line crossings.

Safety Division Staff concludes the impact to the public will be de minimis and not measurable. The crossings do not appear to affect the rights of the public in the public waters and state owned land because minimum safe line clearances above the water and land surfaces will be maintained at all times.

Staff Recommendation:

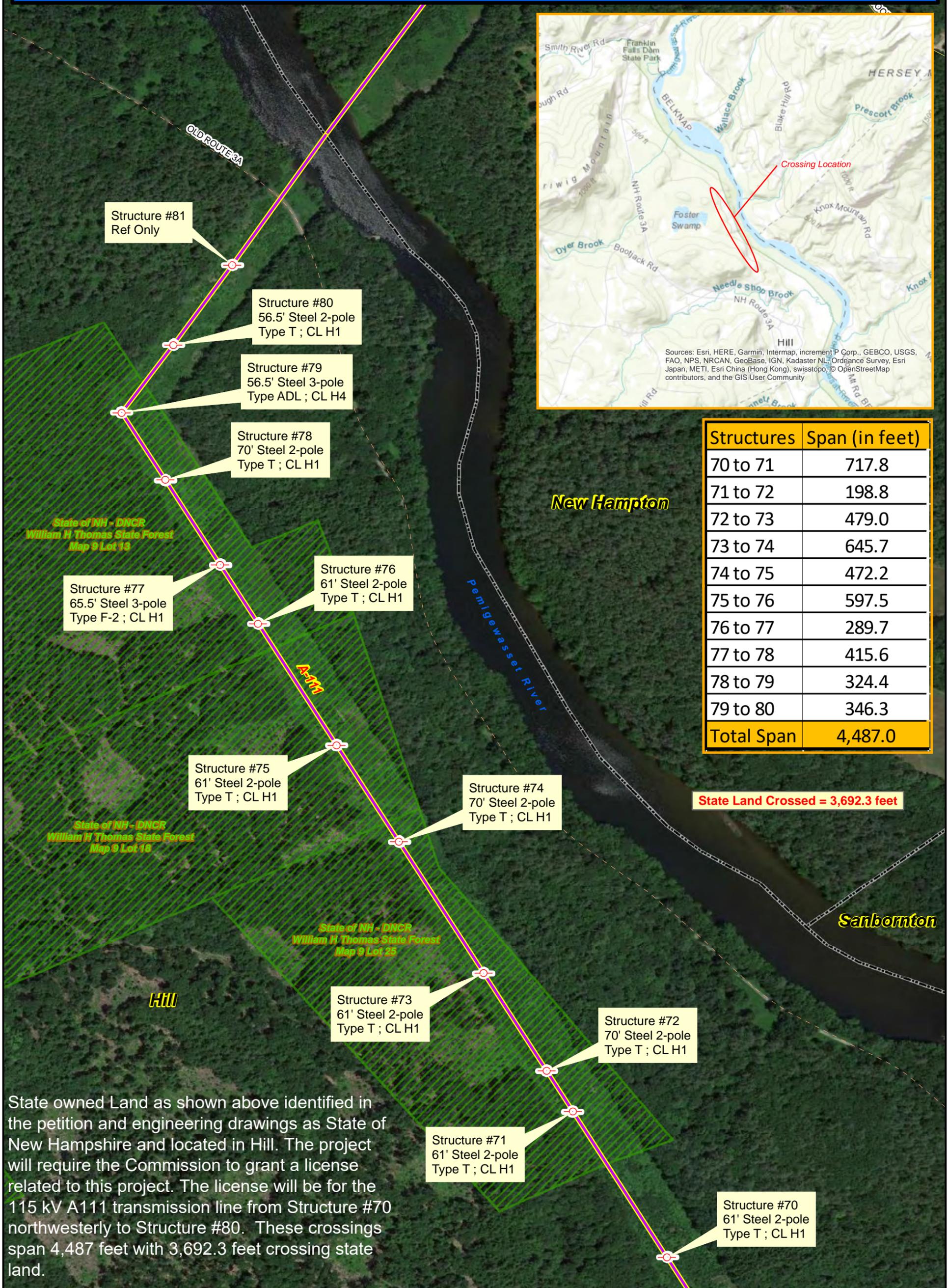
Based on the results of its review of the petition, its attachments, and all other supporting documents filed to this docket, the Safety Division Staff recommends that the Commission:

- 1) Find that the license and license amendment ES requests in this docket may be exercised without substantially affecting the public rights in State owned land and the public waters, which are the subject of the petition;
- 2) Grant ES a license and license amendment to construct, operate and maintain electric lines and communication cables over and across the State owned land in Hill and the public waters of the Pemigewasset River in Hill and New Hampton, New Hampshire, as specified in the petition;

3) Issue an Order Nisi and orders for its publication.

Attachment

State Land (DNCR) - DE 21-113 Eversource Crossing



State owned Land as shown above identified in the petition and engineering drawings as State of New Hampshire and located in Hill. The project will require the Commission to grant a license related to this project. The license will be for the 115 kV A111 transmission line from Structure #70 northwesterly to Structure #80. These crossings span 4,487 feet with 3,692.3 feet crossing state land.

Utility Structure

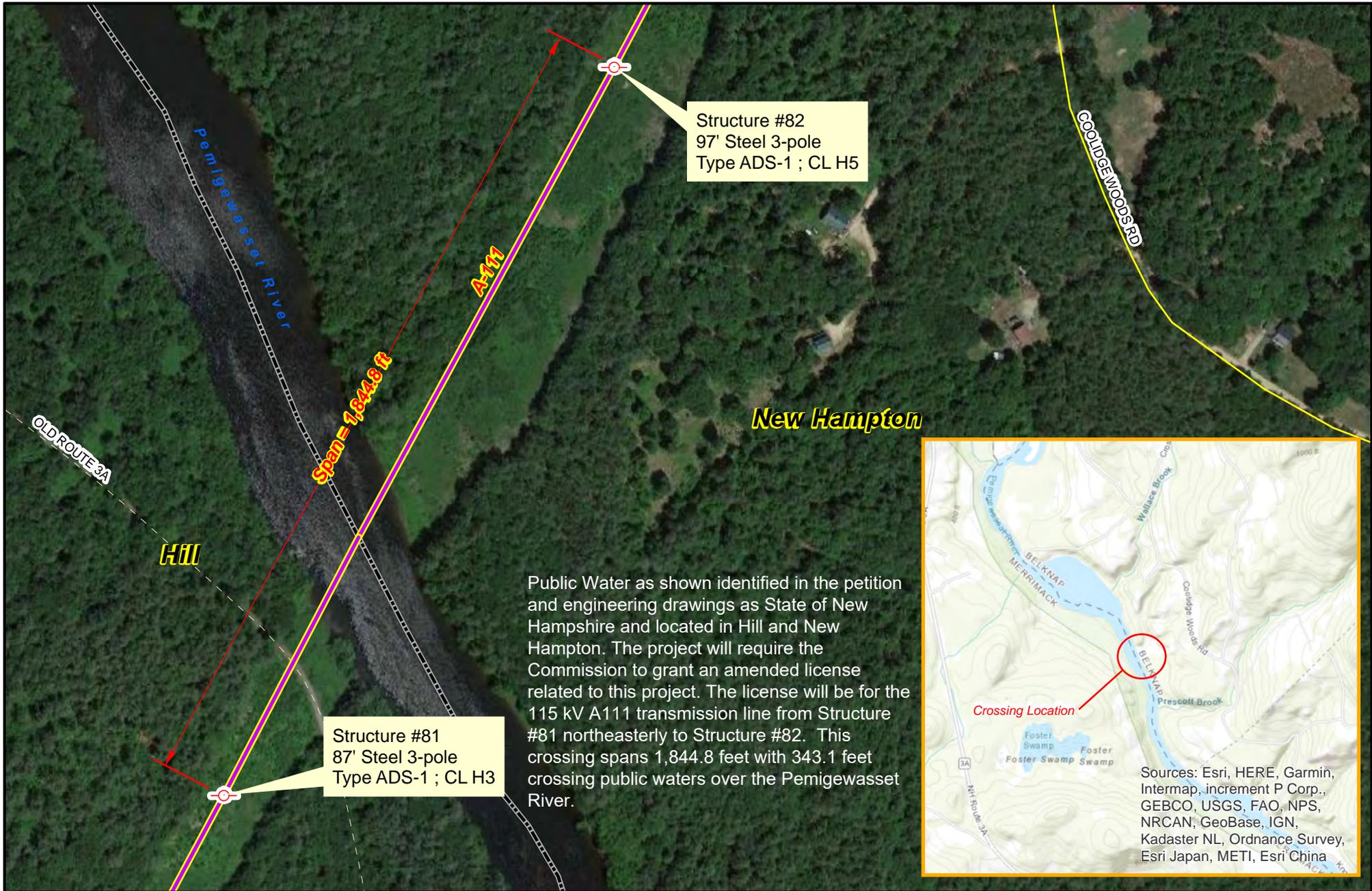
State Land Parcel

115 kV Lines

Prepared by:
NH Public Utilities Commission
Safety Division - GIS Section

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Feet

Pemigewasset River - DE 21-113 Eversource Crossing



Public Water as shown identified in the petition and engineering drawings as State of New Hampshire and located in Hill and New Hampton. The project will require the Commission to grant an amended license related to this project. The license will be for the 115 kV A111 transmission line from Structure #81 northeasterly to Structure #82. This crossing spans 1,844.8 feet with 343.1 feet crossing public waters over the Pemigewasset River.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

 Utility Pole
 115 kV Lines




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 Safety Division - GIS Section

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 Feet

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